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AN EXPLORATORY STUDY OF RATES OF PROGRESS IN EARLY READING
SKILLS IN AN INCLUSIVE CLASSROOM AS MEASURED BY DIBELS
INDICATORS

By
Tracy DeAngelo

A Thesis

Submitted in partial fulfillment of the requirements of the
Masters of Arts Degree
of
The Graduate School
At
Rowan University
April 2007

Approved by

Dr. Stanley Urban

Date Approved

April 23, 2007

ABSTRACT

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An Exploratory Study of Rates of Progress in Early Reading Skills in an Inclusive
Classroom as Measured by DIBELS Indicators
2006/2007
Dr. Stanley Urban
Master of Arts in Learning Disabilities

The purpose of this study was to determine if inclusion of special education students impacted the rate of progress made within the kindergarten classroom. The Dynamic Indicators of Basic Literacy Skills (DIBELS) was used to measure progress. DIBELS is a set of standardized, individually administered measures of early literacy development that can identify children at risk for reading difficulties and monitor the effectiveness of remediation programs.

Kindergarten students from Harrison Township Elementary School were the participants of this study. The progress made by 22 students within a morning non-inclusive class was compared to the progress made by 18 students within an afternoon inclusion class. Four students in the PM hold a special education classification.

Both kindergarten classes were administered two sub-tests from DIBELS in September and January. Letter Naming Fluency (LNF) measures a child's ability to name randomly presented upper and lower case letters in one minute. Initial Sound Fluency (ISF) measures a child's ability to produce the initial sound in an orally presented word.

A comparison of the achievement on the DIBELS between the two groups was conducted. The mean score of the AM group and the PM group was compared using an independent samples t test to determine if significant differences existed. The results of the study showed that there was no significant difference between the two groups on the variables examined as measured by DIBELS. The research findings led to the conclusion that the inclusion of special education students did not have a negative impact on the rate of progress made within the kindergarten classroom.

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CHAPTER 1

Introduction

Background

Recently, many US initiatives have focused on ensuring that early learners are exposed to a strong foundation in reading. Primarily, the No Child Left Behind Act seeks to “ensure that all children have a fair, equal and significant opportunity to obtain a high-quality education...” (Access Center, 2004). This federal law was an attempt to improve the academic achievement of all children, including those with disabilities.

Inclusion of children with disabilities in public school systems is increasing and general education classrooms are servicing a diverse population. The *Individuals with Disabilities Education Act* and *Section 504 of the Rehabilitation Act of 1973* both require that a significant effort be made to find an inclusive placement for children with disabilities (www.weac.org). Reading is an essential skill for students with disabilities to be integrated into general education classrooms and to gain access to the general education curriculum. Also, reading is prerequisite for success in content areas such as science and social studies.

For all students, early reading intervention is more effective than intervention later or remediation. Students with early reading failure are unlikely to close the gap or meet grade level expectations. Longitudinal research indicates that students who show persistent reading problems continuing to the third grade level are more likely to show problems into adulthood. As a result, there must be a focus on using instructional

strategies that positively impact early reading development. The National Reading Panel reports that “kindergarteners that received systematic beginning phonics instruction read and spelled better than other children and first graders decoded and spelled words better than those who did not receive instruction” (2000).

Identifying and monitoring students that require researched-based interventions early in the primary grades is necessary. The Dynamic Indicators of Basic Early Literacy Skills (DIBELS) is an important resource for measuring the essential skills that form the basis for early success in reading. DIBELS was developed through the *Early Childhood Research Institute on Measuring Growth and Development* at the University of Oregon (Good, Simmons & Smith, 1998). This screening and progress monitoring assessment was developed to identify students at risk of reading failure so that appropriate interventions could be put into place to remediate the deficiencies. With the increasing number of inclusion classrooms, it is necessary to ensure that the entire classroom population has the opportunity to make meaningful gains.

Need for Study

This study will compare growth in early reading skills between two kindergarten classes, one of which is a general education classroom containing no children with disabilities and the other being an inclusion classroom. Within this school district the inclusion model used is referred to as team teaching. The terms inclusion and team teaching will be used interchangeably throughout the study. This study is being conducted in a K-6 district that currently has one inclusion classroom within each grade level. There are nine to ten classes of each grade level. This collaboration, which occurs in the inclusive team teaching classrooms is fairly new to the district and viewed

cautiously by some general education parents. However, this approach meets the obligation of the district to service special education students in their least restrictive environment. DIBELS is a screening measure that is being implemented this school year in the district. This screening measure will be used to measure progress when comparing an inclusion classroom that uses team teaching with a classroom that is non-inclusive.

Research supports the need for early intervention in literacy. “Students who do not ‘learn to read’ during the first three years of school, experience enormous difficulty when they are subsequently asked to ‘read to learn’” (NCITE, 1996).

Value of the Study

Reading is fundamental to every aspect of a child’s learning both in school and adulthood. Reading difficulties impact a student’s acquisition of knowledge and skills, effect motivation and engagement, and can cause increased levels of anxiety and misbehavior in the classroom (Access Center, 2004). According to the Access Center, a majority of reading problems can be prevented through effective instruction in kindergarten and early elementary school when what is known from research is translated and implemented in the classroom (2004).

The Dynamic Indicators of Basic Early Literacy Skills or DIBELS is designed to assess phonological awareness, alphabetic principle and fluency with connected text. These areas coincide with the findings of the National Reading Panel (NRP), which set out to identify approaches proven effective in teaching children to read (NRP Report, 2000). Therefore, DIBELS can be used to identify at risk students and provide feedback on effectiveness of intervention support. That leads to the purpose of this study, which is

to determine if inclusion of special education students impacts the rate of progress made within the kindergarten classroom.

Research Questions

In order to accomplish the overall purpose of this study, the following general research questions will be answered.

Question 1: Will an afternoon kindergarten inclusion class make the same gains on Letter Naming Fluency (LNF), as measured by DIBELS, as a morning kindergarten class that does not contain any children identified with disabilities?

Question 2: Will an afternoon kindergarten inclusion class make the same gains on Initial Sound Fluency (ISF), as measured by DIBELS, as a morning kindergarten class that does not contain any children identified with disabilities?

Question 3: Will inclusion students in the afternoon kindergarten class make similar gains as the general education students in the afternoon kindergarten class?

Question 4: Will there be a difference between the achievement of general education students in an inclusion afternoon kindergarten class and general education students in the non-inclusive morning kindergarten class on Letter Naming Fluency (LNF) and Initial Sound Fluency (ISF), as measured by DIBELS?

Definitions

The following definitions have a specialized meaning within the context of this study.

Special Education – Specifically designed instruction at no cost to the parents, to meet the unique needs of students with disabilities, including instruction conducted in the

classroom, in the home, in hospitals and institutions and in other settings and instruction in physical education (Special Education NJ Administrative Code 6A:14, 2001).

Inclusion – Integration of students with physical, academic and social disabilities with age peers. The purpose of an inclusion model is for students of various levels of disabilities to be an essential part of the learning environment within a general education classroom.

Team Teaching – Occurs when general and special educators provide instruction to students with varying abilities in the same physical area. These professionals are partners in the education process and actively and jointly plan and implement curriculum. The co-teaching pair shares their expertise and knowledge within this inclusion setting (Lindsey and Wunder, 2004).

Phonemic Awareness – The ability to hear, identify and manipulate individual sounds in words (National Reading Panel, 2000).

Dynamic Indicators of Basic Early Literacy Skills – A set of short, standardized fluency measures that are administered individually to measure and monitor basic early literacy development (www.dibels.uoregon.edu).

Initial Sound Fluency – DIBELS measure which assesses a child's skill to isolate the individual sound(s) at the beginning of a given word.

Letter Name Fluency – DIBELS measure which assesses a child's rapid identification of uppercase and lowercase letters.

Limitations

There are several limitations that need to be considered when interpreting and generalizing the results of this study. The study will be conducted within two

kindergarten classrooms over a seven month period of time. The first kindergarten session contains 22 students and the second kindergarten session contains 18 students, four of which have a special education classification. The study consequently uses a convenience group. The sample size was not randomly selected and the special education sample size is small. Only one measure, Dynamic Indicators of Basic Early Literacy Skills (DIBELS), is used to compare academic progress within the targeted groups. Administration for the benchmark assessment is recommended for September, January and May. For the purpose of this study, data is only used from September and January to determine progress. This may have been too short a time period to measure gains.

CHAPTER 2

Review of Literature

Literacy and Phonemic Awareness

Approximately 75% of students identified in the third grade with reading skill deficits continue to be reading disabled in grade nine (www.reading.uoregon.edu).

Literacy has received a significant amount of attention in recent years. Legislation such as the federal No Child Left Behind Act (NCLB) focus on early identification and interventions for students with reading problems. These critical elements of identification and intervention are the key to improving outcomes and narrowing the gap for low achieving readers (Good, Simmons, and Smith, 1998). Kindergarten thus is a critical time for early identification and intervention.

Kindergarten through third grade is considered the critical years in reading instruction. In 2000 the National Reading Panel (NRP) issued a report that responded to a congressional mandate to help parents, teachers and policymakers recognize key skills and methods essential to reading achievement. Research in reading instruction was extensively reviewed by the panel and instructional methods were identified that connect to reading success. Phonemic awareness, phonics, fluency, vocabulary and text comprehension were identified as the five areas of reading instruction needed to improve reading success. Phonemic awareness is important because it improves children's word reading and reading comprehension and it helps children learn to spell. There are a variety of activities that can be used to develop phonemic awareness skills such as

identifying phonemes, blending phonemes to form words and deleting or adding phonemes to form new words. Phonics instruction guides children to an understanding of the alphabetic principle. Effective programs include a systematic and explicit approach, along with many opportunities for children to apply their letter and sound knowledge. The ability to read a text accurately and quickly refers to fluency. A fluent reader is better able to comprehend what is read. Modeling fluency and engagement in repeated oral readings aids in fluency development. Monitoring of student progress in fluency is also recommended. Oral vocabulary and reading vocabulary are both important to communicate effectively. Vocabulary can be developed both indirectly and directly. Comprehension is purposeful and active and it is also the reason for reading. It is important to teach comprehension strategies through explicit instruction and cooperative learning. Readers also need to be guided to use a combination of strategies flexibly. Quality reading instruction incorporates all five of the building blocks as discovered by the National Reading Panel initiative. (National Reading Panel, 2000).

A strong foundation in phonemic awareness is an essential pre-reading skill and a strong predictor of children who experience early success in reading (www.reading.uoregon.edu). Good et al. (1998) outline phonemic awareness interventions. The interventions include scaffolded instruction at the phoneme level, explicitly modeled skills prior to practice, systematic and strategic instruction for word identification, blending and segmenting and the use of concrete objects for sound representation. Research suggests by the end of kindergarten, children should demonstrate phonemic blending and segmentation skills, in addition to the ability to use sounds to spell simple words (Chard and Dickson, 1999).

Reading research has found identification and intervention at the earliest possible age to be the first step in preventing reading disabilities. Bishop (2003) studied 103 kindergarten students who were given standardized tests in three Florida schools over a two year period. The study highlighted three areas of research. The first was to identify the optimal combination of predictive measures that correlate with reading achievement. Letter naming, phonological awareness, rapid automatized naming and phonological memory were found to be the key measures. The second purpose was to examine the predictive accuracy of the measures. Phonological awareness subtests provided the most accurate prediction of individual reading ability at the end of grade one, followed by rapid letter naming. The study also sought to determine the most accurate time frame for test administration in kindergarten. However, an optimal time frame was not determined.

Dynamic Indicators of Basic Early Literacy Skills

Since early prevention is far better than remediation, scientifically validate and reliable instruments are needed to guide identification and intervention efforts. The Dynamic Indicators of Basic Early Literacy Skills (DIBELS) can identify children at risk for reading difficulty and provide additional instructional support. DIBELS are a set of standardized, individually administered measures of early literacy development. These short fluency measures are administered in the fall, winter and spring and they can also be used to regularly monitor the development of early literacy skills. The Early Childhood Research Institute on Measuring Growth and Development at the University of Oregon originally developed DIBELS. The following subtests are available; Initial Sound, Letter Naming, Phoneme Segmentation, Nonsense Word, Oral Reading Retell and Word Use. These subtests contain skills predictive of later reading proficiency. Minimal

training is needed to score the subtests and timely feedback is provided (www.dibels.uoregon.edu). A web-based database is also available. This database allows school districts to enter their DIBELS data online and generate a variety of automated reports (www.dibels.uoregon.edu). Research from the University of Oregon supports five big ideas in early literacy. Phonemic awareness, alphabetic principle, fluency with text, vocabulary and comprehension are the big ideas which are the basis for curriculum and instruction. These big ideas inspire the DIBELS measure. The kindergarten subtests connected to the big ideas are initial sound fluency and phoneme segmentation fluency for phonemic awareness and letter naming and nonsense fluency for alphabetic principle. The official DIBELS website reports that the odds are in a student's favor of being a good reader if he/she has established phonemic awareness in kindergarten. Benchmark goal levels for kindergarten students in the winter are a score of 25 or more in Initial Sound Fluency and 35 or more in Phoneme Segmentation Fluency. In the spring a benchmark of 20 or more is needed for Nonsense Word Fluency (www.reading.uoregon.edu). Research suggests that most students who can reach the benchmark goals by the end of kindergarten are on their way to meeting grade level expectations in first grade (Langdon, 2004).

There are studies available to support DIBELS being a valid and reliable instrument to guide identification and intervention efforts. Elliott, Lee and Tollefson's study performed a psychometric analysis and found DIBELS to be a reliable and valid indication of children's progress toward acquiring early literacy skills. Validity coefficients ranged from .60-.92. Test retest reliability coefficients ranged from .53-.70 (2001). Allor, Gansle and Denny (2006) used this curriculum based measurement to

identify and evaluate the progress of six kindergarten students experiencing difficulty in phonemic awareness. A game called *Stop and Go* was implemented. This game focused on phonemic awareness, the one skill researchers agree is critical to successful reading achievement. This study also looked to identify the effectiveness of the *Stop and Go* game intervention. This phonemic awareness game was taught explicitly to the kindergarten students. DIBELS was used as an assessment measure to monitor the effectiveness of the program. The outcome of the study found all six students made meaningful gains, according to DIBELS, in phonemic awareness. Haager and Windmueller (2001) looked to identify at risk students for reading failure. Because of their predictive qualities, early reading skills were assessed using DIBELS. This study documented the implementation of early reading intervention for English language learners (ELL) in an urban school. The study found DIBELS to be a powerful teacher intervention because of the meaningful data it provided.

Inclusion

Just as NCLB is governing education in the United States and significantly impacting literacy instruction and assessment, the Individuals with Disabilities Education Act (IDEA) requires schools to provide instruction for students with disabilities in the least restrictive environment. IDEA mandates all students (including those with disabilities) receive a free and appropriate education in the least restrictive environment to the maximum extent appropriate (Snyder, 1999). In order for school districts to provide an inclusive education to a considerable number of students with disabilities, co-teaching classrooms have emerged. Co-teaching can also be referred to as team teaching, cooperative teaching and collaborative teaming. In order for co-teaching models to be

effective, Piechura-Couture, Tichenor, Touchton, Macisaac and Heins (2006) report teacher compatibility is necessary, a strong level of various team teaching approaches is needed and careful planning is essential. It is imperative that teachers receive training before they begin team teaching. Careful planning is also recommended when creating teacher partners. Compatibility and mutual respect are important factors in establishing a partnership between teachers. Within a team teaching classroom two highly qualified teachers are expected to bring both content area and special education expertise to the classroom and collaborate to meet the needs of all the students. This approach draws on the strengths of both the general educator, who understands the structure, content and pacing of the general education curriculum, and the special educator, who can identify unique learning needs of individual students and enhance curriculum and instruction to meet those needs. Students with high-incidence disabilities are most often recommended for team teaching classrooms. There are various models of a team teaching approach. Having one teacher teaching and one assisting is one approach, station teaching is another. Parallel teaching involves teaching the same lesson in two heterogeneous groups. Alternative teaching involves unequal groups and teaming actively engages both teachers in whole group instruction. All approaches can be used interchangeably to best meet the needs of the lesson and students in the classroom.

Inclusive settings fulfill individualized education plans and bring services to the child within a regular classroom. Supporters of inclusion feel advantages are a reduction in stigma, encouragement of collaboration, increase in interaction, increase in acceptance and added classroom resources. Those not in favor of inclusion feel there are disadvantages for special and general education students. These disadvantages include

harm to those it is designed to help, insufficient research to support moving away from more restrictive environments, poor teacher attitudes, poor teacher training and an inability to challenge higher achieving students (Synder, 1999).

Leyser and Kirk (2006) questioned 437 families of children with disabilities and discovered an array of advantages and concerns. The families expressed that their children have rights to the same privileges and advantages. They also felt inclusion increases socialization, friendship, self-esteem and acceptance. Inclusion concerns included bullying and teasing, instructional pace and the knowledge, skill and training of the staff.

Summary

Research suggests that students in a well-supported inclusive environment get a richer, more individualized education, learn more about meta-cognitive strategies and develop a greater understanding of individual differences (Schultz, 1998). This quality classroom instruction is needed for all students to acquire solid reading skills. Ensuring early reading success for students is not an easy task; however effective instruction in the early elementary years, with a focus on phonemic awareness, can prevent numerous reading problems. This means early identification is necessary and the Dynamic Indicators of Basic Early Literacy Skills can provide this continuous evaluation of student literacy skills.

CHAPTER 3

Design of the Study

Sample

The study was conducted using participants from Harrison Township Elementary School in Mullica Hill, New Jersey. Harrison Township is a kindergarten through third grade building. There are 10 half-day kindergarten sessions (five in the morning and five in the afternoon). Each grade level in the school has one team teaching classroom. Two kindergarten classes were the focus of this study. The morning kindergarten class has 22 students and the afternoon team teaching kindergarten class has 18 students. There are eleven boys and eleven girls in the am session. There are eight boys and ten girls in the pm session. Four of the students in the afternoon are students with disabilities and receive special education services within the team teaching classroom (three boys and one girl). The four students also receive speech and language services and two receive occupational therapy.

Method of Sample Selection

The participants represent a convenience group that was available to the researcher.

Instrumentation

The Dynamic Indicators of Basic Literacy Skills (DIBELS) implementation is new for the Harrison Township School district this school year. All participants are administered DIBELS. The fall benchmark administration occurred in September 2006.

The winter benchmark administration occurred in January 2007. The kindergarten students were administered Initial Sound Fluency and Letter Naming Fluency.

Benchmark administrations are also held in the spring. In the winter students are assessed on Initial Sound Fluency, Letter Naming Fluency, Phoneme Segmentation Fluency and Nonsense Word Fluency. Letter Naming Fluency, Phoneme Segmentation Fluency and Nonsense Word Fluency comprise the spring assessment.

DIBELS Letter Naming Fluency (LNF) is a standardized, individually administered test that provides a measure of risk (<http://dibels.uoregon.edu>). Upper and lower case letters are presented on the page in a random order and the students are asked to name as many letters as they can. In the directions students are told if they do not know a letter they will be given the letter. The students are given one minute to name the letters and their score represents the number of letters named correctly in this time. The discontinue rule is used if the student does not give any correct letter names within the first 10 letters (1 row). A score of 0 is recorded. The three second rule is used if a student hesitates for three seconds on a letter. The letter is scored incorrect and the correct letter is verbally provided. Pointing to the next letter with the prompt, "What letter" is allowed to be repeated. Students are considered at risk for achieving early literacy benchmark goals if they perform in the lowest 20% of students in their district. The 20th percentile is calculated using local district norms. Students are considered at some risk if they perform between the 20th and 40th percentile using local norms. Students are considered at low risk if they perform above the 40th percentile using local norms. However a benchmark goal is not provided for LNF in DIBELS because it does not correspond to a big idea of early literacy skills.

The DIBELS Initial Sounds Fluency (ISF) measure is a standardized, individually administered measure of phonological awareness (<http://dibels.uoregon.edu>). This measure assesses a child's ability to recognize and produce the initial sound in an orally presented word. Each child is presented with four pictures by the examiner. The names of these pictures are given by the examiner. The child is then asked to identify (by pointing or saying the name of the picture) what picture begins with the sound verbally produced by the examiner. For example, the examiner says, "This is sock, dog, hat, and gate. Which picture begins with /s/?" and the student points to the correct picture. Another component of this section asks the child to verbally give the beginning sound of a presented picture. The examiner calculates the amount of time taken to identify/produce the correct sound and converts the score into the number of initial sounds correct in a minute. The formula for this calculation is 60 times number correct (possible total of 16) divided by the number of seconds it took the child to complete the section. A stop watch is used by the examiner and only runs while the child is responding. Therefore the time it takes the examiner to review the pictures and ask each question is not included in the total time to respond. The child has five seconds to respond to a question. If a child does not respond after five seconds a score of zero is given and the next question is presented. The discontinue rule is used if a child scores a zero on the first five questions. After administering this subtest it is clear that the amount of time a child takes to respond significantly impacts his/her score on the subtest regardless of the number of correct answers. Therefore students that may not be focused entirely or that benefit from a wait period or time to process information may not score well on this test. On the other hand, having automaticity of letters and sounds is

highlighted and focused on within the big ideas of reading success. Results of both subtests indicate if a student is at risk, some risk or low risk (<http://dibels.uoregon.edu>). Status determines if a student needs substantial interventions (intensive), additional interventions (strategic) or if a student is performing at grade level (benchmark). The students who meet the intensive and strategic classifications can also be progress monitored by DIBELS. Progress monitoring allows the educator to collect and analyze data to determine student progress toward the desired outcome. It also allows the teacher to make instructional decisions based on the review and analysis of student data. If progress is not made, instructional interventions should then be adjusted according to individual student results.

Weekly progress monitoring is recommended. However in the HTS school district progress monitoring is slated to be done once in between the fall and winter benchmark and once in between the winter and spring benchmark. Since the kindergarten program is half day, it is not realistic to implement weekly progress monitoring. It was decided in the district that the students will be progress monitored once in between each benchmark assessment. The first progress monitoring occurred in November and the second progress monitoring occurred in March.

Collection of Data

All student scores are entered into the DIBELS database (<http://dibels.uoregon.edu>). The DIBELS data system is a service allowing schools to enter students and DIBELS scores online. Automated reports and analyses can be generated. A fee of one dollar per student per year is charged. For the 2005-2006 school year 11,878 schools used the data system (K-3). With this data system student

information and DIBELS benchmark scores can be entered and tracked. Automated reports can be generated (by student, class, school or district). Progress monitoring data can also be entered and graphs can be generated. The information gained will be used to meet the goals of the study, which is to compare student progress within the two types of kindergarten sessions.

Analysis of Data

A comparison of the achievement on the DIBELS of the morning kindergarten class which does not have any students with disabilities enrolled and the afternoon kindergarten class which has four students with disabilities enrolled will be conducted. The mean scores of the AM group and PM group will be compared using an independent samples t tests to determine if significant differences exist. The SPSS student version 10.0 will be used to complete the statistical data¹. Because of the small size of the subset of children with disabilities ocular inspection of the achievement of this group will be used to compare progress.

¹ Kirkpatrick, Lee & Feeney, Brooke (2001). A Simple Guide to SPSS for Windows. Belmont, California: Wadsworth Publishing.

CHAPTER 4

Analysis and Interpretation of Data

Introduction

The results of this study are presented in a format which answers the research questions listed in Chapter One. Research questions one and two were answered by using an independent samples t test in order to determine if significant differences on the variables measured were present between the afternoon inclusion kindergarten compared to the morning kindergarten that contained no children identified with disabilities.

Next, research questions three and four were answered by simple inspection of the achievement of the inclusion students when compared to that of the general education students in the same class and of the general education students in the afternoon class when compared to that of the general education students in the morning class.

Results

Research Question 1: Will an afternoon kindergarten inclusion class make the same gains on Letter Naming Fluency (LNF), as measured by DIBELS, as a morning kindergarten class that does not contain any children identified with disabilities?

An inspection of Table 1 shows that there was no significant difference in the mean of achievement between the two groups for Letter Naming Fluency. In fact the inclusion class, as a cohort made greater average gains on their raw scores when compared to the non-inclusion class.

Table 4.1

Comparison of Means in LNF for PM Inclusion Class and AM General Education Class

Group	Number	Mean	Standard Deviation	t-test
AM	22	34.81	13.88	.210*
PM	18	41.33	18.42	

*Not significant at less than .05 level of probability

Research Question 2: Will an afternoon kindergarten inclusion class make the same gains on Initial Sound Fluency (ISF), as measured by DIBELS, as a morning kindergarten class that does not contain any children identified with disabilities?

An inspection of Table 2 shows that there was no significant difference in the mean of achievement in Initial Sound Fluency between the two groups. Similar to the LNF results the overall achievement of the inclusion cohort was higher than the non-inclusion group.

Table 4.2

Comparison of Means in ISF for PM Inclusion Class and AM General Education Class

Group	Number	Mean	Standard Deviation	t-test
AM	22	25.77	10.15	.579*
PM	18	27.67	11.21	

*Not significant at less than .05 level of probability

Research Question 3: Will inclusion students in the afternoon kindergarten class make similar gains as the general education students in the afternoon kindergarten class?

An inspection of Table 3 shows no meaningful difference between the mean of the two groups. Because of the small sample size of the inclusion students (n=4) it was not possible to complete a statistical test to determine differences in achievement. However, posttest scores for the inclusion students on the LNF and ISF variables exceeded the posttest scores of the AM group.

Table 4.3

Comparison of Inclusion Students Post Scores on LNF and ISF with Post Scores of General Education Students in the PM Kindergarten Class

Student	Number	Mean LNF	Mean ISF
PM Inclusion	4	37.00	35.00
PM General Education	14	42.57	25.57

Research Question 4: Will there be a difference between the achievement of general education students in an inclusion afternoon kindergarten class and general education students in the non-inclusive morning kindergarten class on Letter Naming Fluency (LNF) and Initial Sound Fluency (ISF), as measured by DIBELS?

An inspection of Table 4 shows no meaningful difference between the mean of the general education students in the afternoon session compared to that of the general education students in the morning session. The afternoon session actually has a higher mean than the morning session in LNF, therefore performing a statistical test would have been unnecessary.

Table 4.4

Comparison of Post PM General Education Student Scores on LNF and ISF with scores of AM General Education Students

Student	Number	Mean LNF	Mean ISF
AM Students	22	34.82	25.77
PM Students	14	42.57	25.57

Summary

The results of this study showed that there was no significant difference between the two groups on the variables examined as measured by DIBELS. Therefore it can be concluded that inclusion of special education students did not have a negative impact on the rate of progress made within the kindergarten classroom. It can also be suggested, by the higher means, that the inclusion model provided a positive academic impact on the literacy achievement of both general and special education students within the afternoon kindergarten classroom. Both classes will be administered the DIBELS assessment again in the spring. The students in both classes who scored at risk and some risk will continue to receive additional interventions in literacy.

CHAPTER 5

Summary, Findings, and Conclusions

Summary

The purpose of this study was to determine if inclusion of special education students impacted the rate of literacy progress made within the kindergarten classroom. The Dynamic Indicators of Basic Literacy Skills (DIBELS) was used to measure progress. DIBELS is a set of standardized, individually administered measures of early literacy development that can identify children at risk for reading difficulties and monitor the effectiveness of remediation programs.

Kindergarten students from Harrison Township Elementary School were the participants of this study. The progress made by 22 students within a morning non-inclusive class was compared to the progress made by 18 students within an afternoon inclusion class. Four students in the PM hold a special education classification.

Both kindergarten classes were administered two sub-tests from DIBELS in September and January. Letter Naming Fluency (LNF) measures a child's ability to name randomly presented upper and lower case letters in one minute. Initial Sound Fluency (ISF) measures a child's ability to identify the initial sound in an orally presented word.

A comparison of the achievement on the DIBELS between the two groups was conducted. The mean score of the AM group and the PM group was compared using an independent samples t test to determine if significant differences existed. The results of

the study showed that there was no significant difference between the two groups on the variables examined as measured by DIBELS. The research findings led to the conclusion that the inclusion of special education students did not have a negative impact on the rate of literacy progress made within the kindergarten classroom.

Findings

Servicing students with disabilities in their least restrictive environment is an obligation of every school district. Inclusion models are being widely implemented to fulfill this obligation. This model can be viewed cautiously by parents of general and special education students. This study set out to determine if rate of progress is hindered for students in an inclusive setting. DIBELS was used to measure the progress made between two kindergarten classes. In addition to being a screening measure, DIBELS also monitors progress. Since current research supports the need for early reading intervention, DIBELS is able to track progress and determine if instructional strategies are effective.

As demonstrated by an independent samples t-test, there was no significant difference in the achievement of the two classes as measured by DIBELS. Inspection of the raw scores showed that the general education students within the pm inclusion classroom made several gains that exceeded the am non-inclusive classroom. The sample of inclusion students was too small to treat statistically; however by visual inspection, they clearly made as much (and in some areas even more) progress as the general education AM class. Visual inspection of raw scores also revealed that the mean score for both sub-tests was higher on the post assessment measure. In the fall the AM class had a mean of 12 for ISF and 19 for LNF. In the winter the AM class had a mean of 25.8

for ISF and 34.8 for LNF. In the fall the PM class had a mean of 13.2 for ISF and 23.1 for LNF. In the winter the PM class had a mean of 27.7 for ISF and 41.3 for LNF. Therefore, it can be speculated that noteworthy progress was made in both sessions toward pre-reading skills.

Careful examination of the Initial Sound Fluency measure from DIBELS reveals that the amount of time taken to complete the section significantly impacts the score of the measure. The total score correct is multiplied by 60 and then divided by the number of seconds it took to complete the measure. Therefore if two children answered the same numbers of questions correct (i.e. 15) and one completed the task in 30 seconds and one in 60 seconds the difference in the scores would be 15 points. As a result, students that lack automaticity or students that have high distractibility may score low on this section.

Discussion

The team teaching model of inclusion is a commitment made between a general education and special education teacher. Two teachers join together to teach all students in the class. An effective co-teaching partnership is an important factor in the success of a team teaching classroom. Successful team teaching needs to be effectively planned and supported with needed resource materials. The delivery of instruction within a team teaching classroom needs to be flexible. All of these components can impact the rate of progress of all students within an inclusive setting.

Whether you are measuring progress made within an inclusive or non-inclusive classroom, reading instruction needs to be research-based. For example, the National Reading Panel outlined key skills and methods essential to reading achievement in the areas of phonemic awareness, phonics, fluency, vocabulary and reading comprehension.

Quality instruction along with means of identifying at risk students is necessary within all classrooms to ensure reading success.

There are only four classified students in the PM class. Three of the students are high functioning academically and the one student is not meeting grade level expectations in some areas of literacy. The overall make up of the general education students in the class is also solid. The couple students that are struggling academically have more of an opportunity in this classroom to receive small group instruction and one-on-one support. Additional research within this area could compare the amount of progress made within an inclusive classroom with special education students of different classifications and abilities. For example, would there have been a significant difference in achievement of the two groups if a student with the classification of emotionally disturbed was in the class or if there were three classified students with a specific learning disability in one of the areas of literacy? The make-up of the inclusion classroom is a significant factor in achievement. Would there have been a significant difference in achievement of the two groups if there were seven classified students as opposed to four? You could also speculate that the PM special education students made more progress in some areas than the AM general education students because they received more one-on-one and small group instruction on targeted areas in literacy.

Numerous factors can impact the progress made within a classroom and each classroom (inclusive and non-inclusive) is unique. The bottom line is general education classrooms are servicing a diverse population. In addition, effective instruction and early identification for students with reading problems is crucial in the primary grades to ensure reading success.

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